AMENDMENTS TO THE CLAIMS

Please amend Claims 1 and 8 as follows, without prejudice or disclaimer to continued examination on the merits:

1. (Currently Amended) A method of allocating bandwidth capacity for data frames transmitted over a SONET ring, comprising the steps of:

subdividing a payload portion of at least one of the SONET data frames comprising a SONET layer into two or more logical channels, each logical channel having associated therewith a predetermined or dynamically configured bandwidth capacity;

assigning a predetermined or dynamically configured protection mechanism to each logical channel ~~of the payload portion of the at least one of the SONET data frames comprising the SONET layer~~, wherein the predetermined or dynamically configured protection mechanism for each logical channel is balanced against bandwidth utilization requirements of grouped data frames that are grouped depending upon protection desired, and wherein each logical channel can be assigned a different protection mechanism; [[and]]

monitoring the SONET ring transmission to determine a type of traffic carried by each logical channel and the protection mechanisms associated with each logical channel[[,]];

routing the data frames to one or more of various hardware switches depending upon the traffic type within each logical channel; and

sharing bandwidth amongst a plurality of nodes in a SONET network; and

wherein each SONET data frame includes a plurality of logical channels.

2. (Previously Presented) The method of claim 1, wherein the SONET data

frames comprise a plurality of STS level one frames, wherein the STS-1 frames are grouped together depending upon protection and bandwidth utilization desired.

3. (Previously Presented) The method of claim 2, wherein the protection mechanism comprises one of a layer 1 SONET protection mechanism and a layer 2 protection mechanism.

4. (Previously Presented) The method of claim 3, wherein, if the protection mechanism assigned to a particular logical channel is not layer 1, the bandwidth capacity for the particular logical channel is allocated among three or more nodes comprising the SONET ring.

5. (Original) The method of claim 3, wherein the layer 1 protection mechanism comprises a bi-directional line switched ring protection mechanism.

6. (Original) The method of claim 3, wherein the layer 1 protection mechanism comprises a unidirectional path switched ring protection mechanism.

7. (Previously Presented) The method of claim 3, wherein the layer 2 protection mechanism comprises at least one of: an Ethernet protection mechanism, an asynchronous transport mode protection mechanism, and a time division multiplexing protection mechanism.

8. (Currently Amended) A network node for use in a SONET ring, comprising:

a first circuit configured to subdivide a payload portion of at least one of the SONET data frames comprising a SONET layer into two or more logical channels, each logical channel having associated therewith a predetermined or dynamically configured bandwidth capacity;

a second circuit configured to assign a predetermined or dynamically configured protection mechanism corresponding to a SONET protection level to each logical channel ~~of the payload portion of the at least one of the SONET data frames comprising the SONET layer~~, wherein the predetermined or dynamically configured protection mechanism is balanced against bandwidth utilization requirements of grouped data frames that are grouped depending upon protection desired, and wherein each logical channel can be assigned a different protection mechanism; [[and]]

a third circuit operable to monitor the SONET layer to determine protection mechanisms associated with each logical channel,

a fourth circuit operable to route the data frames to one or more of various hardware switches depending upon the traffic type within each logical channel;

a fifth circuit operable to share bandwidth amongst a plurality of nodes in a SONET network; and

wherein each SONET data frame includes a plurality of logical channels.

9. (Previously Presented) The network node of claim 8, wherein the SONET data frames comprise a plurality of STS level one frames.

10. (Previously Presented) The network node of claim 9, wherein the protection mechanism comprises one of a layer 1 SONET protection mechanism and a layer 2 protection mechanism.

11. (Previously Presented) The method of claim 10, wherein, if the protection mechanism assigned to a particular logical channel is not layer 1, the bandwidth capacity for the particular logical channel is allocated among three or more nodes comprising the SONET ring.

12. (Original) The method of claim 10, wherein the layer 1 protection mechanism comprises a bidirectional line switched ring protection mechanism.

13. (Original) The method of claim 10, wherein the layer 1 protection mechanism comprise s a unidirectional path switched ring protection mechanism.

14. (Previously Presented) The method of claim 10, wherein the layer 2 protection mechanism comprises at least one of: an Ethernet protection mechanism, an asynchronous transport mode protection mechanism, and a time division multiplexing protection mechanism.

15. (Original) The network node of claim 8, wherein the data frames comprise a plurality of VT-1.5 level frames.

16. (Previously Presented) The method of claim 2, wherein the data frames comprise a plurality of non-contiguous STS level one frames.

17. (Previously Presented) The network node of claim 9, wherein the data frames comprise a plurality of non-contiguous STS level one frames.

18. (Previously Presented) The method of claim 1, further comprising:

storing data from two or more logical channels within a single one of the SONET data frames.

19. (Previously Presented) The method of claim 1, wherein the one or more logical channels of the SONET layer are transmitted over a common fiber channel.

20. (Previously Presented) The network node of claim 8, wherein the first circuit is further configured to store data from two or more logical channels within a single one of the SONET data frames.

21. (Previously Presented) The network node of claim 8, wherein the one or more logical channels of the SONET layer are transmitted over a common fiber channel.